PCT/PT. 0 6 MAY 2005 Approved for use through 3/31/2007. OMB 0651-0021 JC02 Rec'd PCT/PTT

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| • | TRANSMITTAL LETTER TO THE UNITED STATES |
|---|---|
| | DESIGNATED/ELECTED OFFICE (DO/EO/US) |
| (| CONCERNING A SUBMISSION UNDER 35 U.S.C. 371 |

ATTORNEY'S DOCKET NUMBER

| DESIGNATED/ELECTED CONCERNING A SUBMISSIO | U.S. APP (CO) (N 10.3 4 cm), 5 cm (CFR 1.5) | | | | | | | | | |
|---|---|--------------------------------------|--|--|--|--|--|--|--|--|
| INTERNATIONAL APPLICATION NO. | INTERNATIONAL FILING DATE | PRIORITY DATE CLAIMED | | | | | | | | |
| PCT/EP03/13012 | 20/11/2003 | 26/11/2002 | | | | | | | | |
| TITLE OF INVENTION Probe for Determination of Oxygen Activity in Metal Melts and Methods | | | | | | | | | | |
| APPLICANT(S) FOR DO/EO/US | | | | | | | | | | |
| Merkens: Schmitz | | | | | | | | | | |
| Applicant herewith submits to the United Sta | cant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: | | | | | | | | | |
| This is a FIRST submission of items con | This is a FIRST submission of items concerning a submission under 35 U.S.C. 371. | | | | | | | | | |
| | This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371. | | | | | | | | | |
| 3. X This is an express request to begin nation (5), (6), (9) and (21) indicated below. | This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. | | | | | | | | | |
| 4. X The US has been elected (Article 31). | The US has been elected (Article 31). | | | | | | | | | |
| 5. X A copy of the International Application | A copy of the International Application as filed (35 U.S.C. 371(c)(2)) | | | | | | | | | |
| a. $\overline{\mathbf{X}}$ is attached hereto (required | a. X is attached hereto (required only if not communicated by the International Bureau). | | | | | | | | | |
| b. has been communicated by | b. has been communicated by the International Bureau. | | | | | | | | | |
| c. is not required, as the applic | cation was filed in the United States Receivi | ng Office (RO/US). | | | | | | | | |
| 6. An English language translation of the | e International Application as filed (35 U.S.C | C. 371(c)(2)). | | | | | | | | |
| a. is attached hereto. | a. is attached hereto. | | | | | | | | | |
| b. has been previously submit | ted under 35 U.S.C. 154(d)(4). | | | | | | | | | |
| 7. Amendments to the claims of the Inter | rnational Application under PCT Article 19 (| 35 U.S.C. 371(c)(3)) | | | | | | | | |
| a are attached hereto (requir | a. are attached hereto (required only if not communicated by the International Bureau). | | | | | | | | | |
| b. have been communicated | b. have been communicated by the International Bureau. | | | | | | | | | |
| <u> </u> | c. have not been made; however, the time limit for making such amendments has NOT expired. | | | | | | | | | |
| d. X have not been made and w | d. X have not been made and will not be made. | | | | | | | | | |
| 8. An English language translation of the | An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). | | | | | | | | | |
| 9. An oath or declaration of the inventor | An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). | | | | | | | | | |
| 10. An English language translation of the .Article 36 (35 U.S.C. 371(c)(5)). | An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). | | | | | | | | | |
| Items 11 to 20 below concern document(s) | or information included: | | | | | | | | | |
| 11. An Information Disclosure Statement | under 37 CFR 1.97 and 1.98. | : | | | | | | | | |
| 12. An assignment document for recording | g. A separate cover sheet in compliance wi | th 37 CFR 3.28 and 3.31 is included. | | | | | | | | |
| 13. A preliminary amendment. | A preliminary amendment. | | | | | | | | | |
| 14. An Application Data Sheet under 37 C | An Application Data Sheet under 37 CFR 1.76. | | | | | | | | | |
| 15. A substitute specification. | A substitute specification. | | | | | | | | | |
| | A power of attorney and/or change of address letter. | | | | | | | | | |
| 17. A computer-readable form of the sequ | A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821- 1.825. | | | | | | | | | |
| 18. A second copy of the published Intern | ational Application under 35 U.S.C. 154(d) | (4). | | | | | | | | |
| 19. A second copy of the English languag | A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). | | | | | | | | | |
| 20 Other items or information: | Other items or information: | | | | | | | | | |

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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| U.S. APPLICAT | U.S. APPLICATION NO. (if known, see 37 CFR 1.5) INTERNATIONAL APPLICATION NO. | | | | | ATTORNEY'S DOCKET NUMBER | | | |
|--|---|------------------------|---------------------------------------|----------------------|--------------------------|--------------------------|--|--|--|
| 1 1 | 10/534070 PCT/EP03/13012 | | | | | DN 02-017 | | | |
| | lowing fees have t | | | | CALCULATIONS | PTO USE ONLY | | | |
| 21. 🔀 Bas | ic national fee | | | \$300 | \$ 300 | | | | |
| If International p PCT Article 3 | mination fee oreliminary examin 3(1)-(4)ons | \$ 200 | | | | | | | |
| 23. 🔀 Sea Search fee (37 C International Sea | urch fee CFR 1.445(a)(2)) h onal Searching Au arch Report prepai | \$ 400 | | | | | | | |
| | TOTAL OF 21, 2 | \$ 900 | | | | | | | |
| sequence li | ee for specification sting or computer 250 for each addi | 900 | | | | | | | |
| Total Sheets | tal Sheets Extra Sheets Number of each additional 50 or fraction thereof (round up to a whole number) | | RATE | | | | | | |
| - 100 = | /50 = | | | x \$250 | \$ | | | | |
| Surcharge of \$13 | 30.00 for furnishing date (37 CFR 1.49 | \$ | | | | | | | |
| CLAIMS | NUME | BER FILED | NUMBER EXTRA | RATE | \$ | | | | |
| Total claims | | 18 -20= | | x \$ 50 | \$ | | | | |
| Independent clai | | - 3 = | | x \$200 | \$ | | | | |
| · | ENDENT CLAIM(S | S) (if applicable) | | + \$360 | \$ | | | | |
| | <u> </u> | , | TOTAL OF ABOVE | CALCULATIONS = | \$ | | | | |
| Applicant cla | aims small entity s | tatus. See 37 CFR 1 | .27. Fees above are reduc | ed by 1/2. | <u> </u> | | | | |
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| a. A chec | k in the amount of | · \$ | to cover the abo | ve fees is enclosed. | | | | | |
| b. X Please charge my Deposit Account No. 13-3639 in the amount of \$ to cover the above fees. A duplicate copy of this sheet is enclosed. | | | | | | | | | |
| c. X The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 13-3639A duplicate copy of this sheet is enclosed. | | | | | | | | | |
| d. Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. | | | | | | | | | |
| NOTE: Where ar | n appropriate tim | e limit under 37 CF | R 1.495 has not been me | , | (37 CFR 1.137(a) or (b)) | must be filed | | | |
| and granted to restore the International Application to pending status. | | | | | | | | | |
| SEND ALL COR | RESPONDENCE T | I & Kuro | <u> </u> | | | | | | |
| | | J. Herman | | | | | | | |
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Practitioner's Docket No. DN 02-017

JC20 Rec'd PCT/PTO 06 MAY 2005

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Merkens; Schmitz

Application No.: PCT/EP 03/13012

Filed: November 20, 2003

For: PROBE FOR DETERMINATION OF OXYGEN ACTIVITY IN METAL MELTS AND

METHODS FOR ITS PRODUCTION

BOX PCT Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

EXPRESS MAIL CERTIFICATE

"Express Mail" label number Date of Deposit May 6, 2005 EDOT34POP4TAZ

I hereby state that the following attached papers or fees

TRANSMITTAL LETTER TO THE US ELECTED OFFICE (in duplicate) - 4 pgs. PRELIMINARY AMENDMENT - 5 pgs. SPECIFICATION WITH CLAIMS - 15 pages COMBINED DECLARATION AND POWER OF ATTORNEY - 3 pgs. RECORDAL OF ASSIGNMENT - 1 pg. RECORDATION FORM COVER SHEET (in duplicate) - 2 pgs. ASSIGNMENT - 2 pgs.

RETURN RECEIPT POSTCARD

are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10, on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Arlington, Virginia 22313-1450.

Andrea I. Rennig

Signature of person mailing paper or fee